

MACHINE SERVICE BULLETIN NO. 270

SUBJECT: All LA, except 6, and MA
with the exception of the
2 carriage models.

DATE: December 23, 1936

TO ALL OFFICES:

This bulletin illustrates and describes a change that has been made in the subject models, whereby a friction device and two locator cams will replace the present locator cam, and the jack shaft friction plates on the LA models. The purpose of this change is to eliminate noise during repetative cycles and to overcome the possibility of the machine stopping off-center.

The material listed below should not be used for general replacement purposes, but if required, should be requisitioned for installation in machines wherein the original locating mechanism has not been satisfactory.

This change obsoletes the use of the following material, which is to be removed from such machines and returned to Orange for an off-setting credit, properly identified on Form 658-S, together with the serial numbers of machines effected:

MA

I	50-603	Locator arm	I	54347	Cam
---	--------	-------------	---	-------	-----

LA

I	40-603	Locator arm	I	3353	Screw
I	957	Screw	I	4787	Spring
I	54347	Cam	I	50	Washer
I	4606	Friction Plate	I	1389	Nut
	I	4606½			Outer friction plate

MATERIAL TO REQUISITION FOR LA MODELS

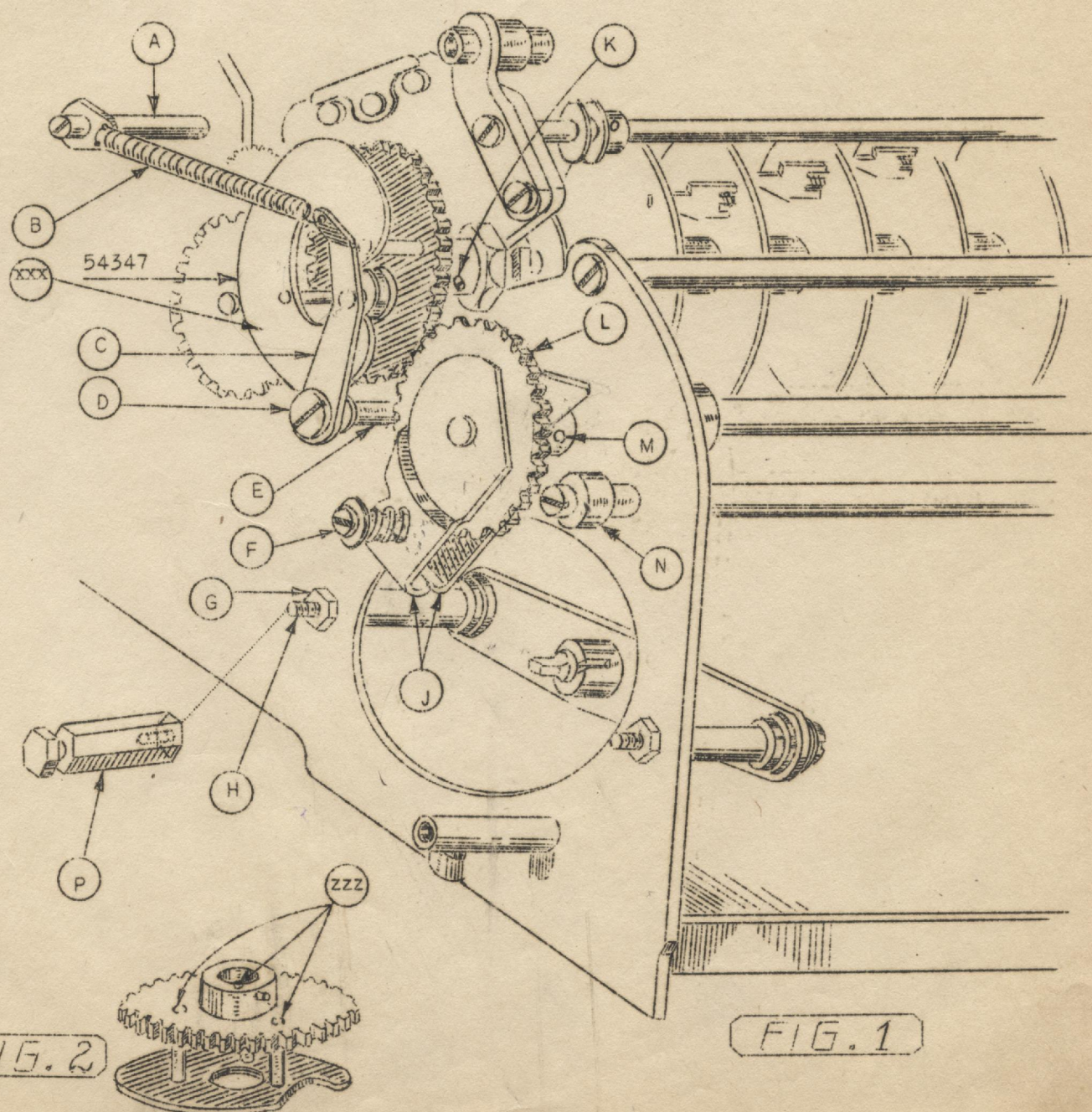
I	82	Ring	
I	44820	Friction spring	
I	40-422	Inner locator cam	
I	40-421	Shutter cam	
I	2644x1	Spacing collar	} For LA 160 models only. For LA 200 models use (I) 46720 support stud.
I	50055	Washer	
I	59351	Shoulder collar	
I	4768	Screw	
I	40-603x1	Locator arm	
I	40-685	Spring	

MATERIAL TO REQUISITION FOR MA MODELS

1	56513	guide stud for locator arm
1	54820	friction spring
1	40-421	shutter cam
1	50-422	inner locator cam
3	54355	spacers
1	50-603x1	locator arm
1	56850	locator spring
1	58371	hexagon nut

HOW TO INSTALL ON LA-200 MODELS

- 1 Remove the carriage and cover case, and operate machine until the timing dots on the gear train align.
- 2 Unhook spring (B) from post (A) and remove the original locator arm (C) by loosening the nut which is inside the machine on screw stud (D). See fig. 1.



3. Remove taper pin (M) and remove gear (L), together with friction plates (J), from the jack shaft. While this gear is off, remove screw (F) and plates (J), from the gear. See figure 1.
4. Replace gear (L) in its original position on the jack shaft and secure with taper pin (M). See figure 1.
5. Remove rubber tubing (N). See figure 1.
6. Remove taper pin (K) and remove the locator cam and gear assembly (xxx) from the main shaft. See figure 1.
7. After the locator cam and gear assembly has been removed from the main shaft, using a hand-ee grinder, remove the rivet heads (zzz) and knock the original locator cam, together with its three rivet studs, from the gear. See fig. 2.
8. Install a 40-422 locator cam by riveting it to the gear. See figure 2.
9. Install the locator cam and gear assembly in its original position on the main shaft and secure it with taper pin (K). See figure 1. NOTE: It is important that the timing dots on the effected gears align properly.
10. Install a 40-603x1 locator arm in the position of the original one (C), using original spacer (E), screw (D), and the retaining nut in doing so. See fig. 1.
11. Install a new locator spring assembly on the 40-603x1 locator arm.
12. Remove nut (G) and screw post (P) on screw stud (H) in its place. See figure 1.
13. Apply oil to the hub on the inner locator cam and the roller on the locator arm. Install a 40-421 outer shutter cam on the hub of the inner locator cam (with the two stop pins of the outer cam facing inward) and position the cams so that the recesses align. See that the shutter cam works freely. See fig. 3.
14. Install a 44820 friction spring in the slot of post (P) and in the groove of the shutter cam. NOTE Very little, if any, adjustment for tension should be necessary on these 44820 friction springs upon their arrival from Orange, inasmuch as the manner in which they are made should furnish the approximate friction which will be necessary to hold the shutter cam in position. Fig. 3.
15. Install retaining ring (T), and attach (Q) to (A). See figure 3.

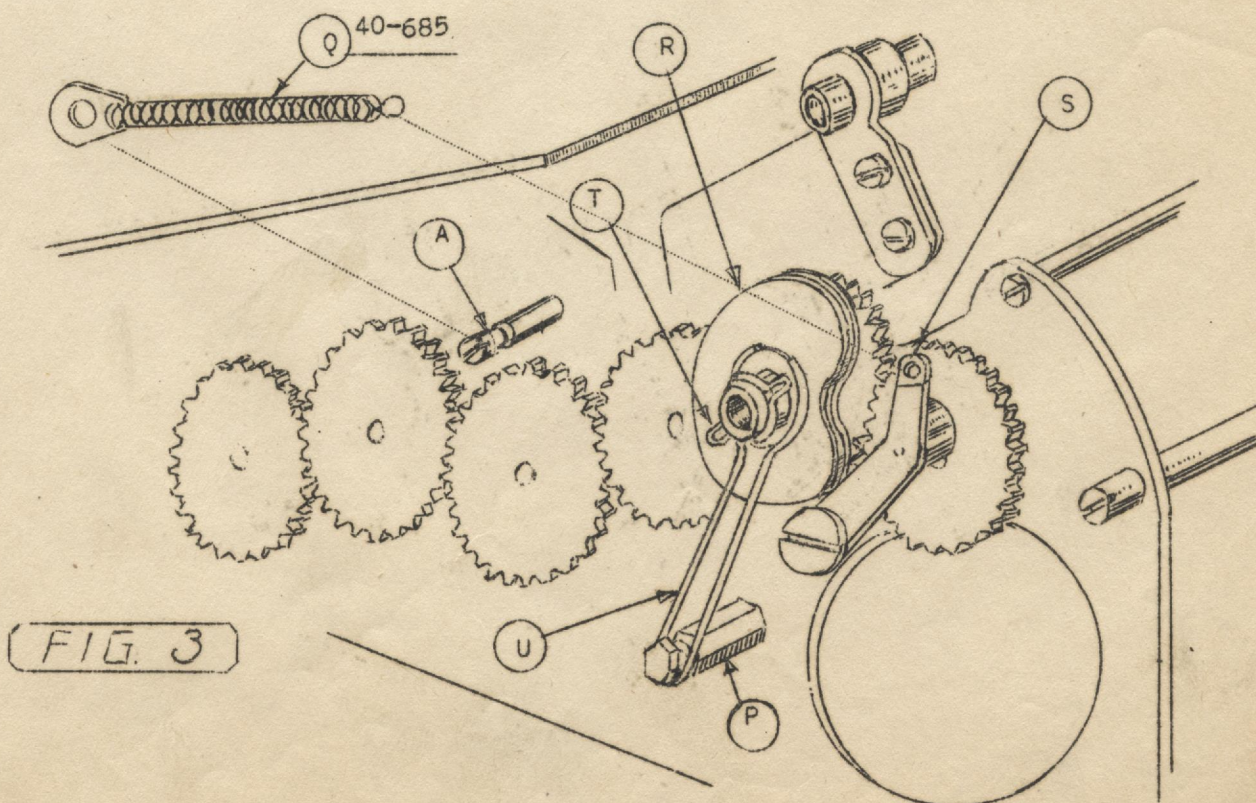


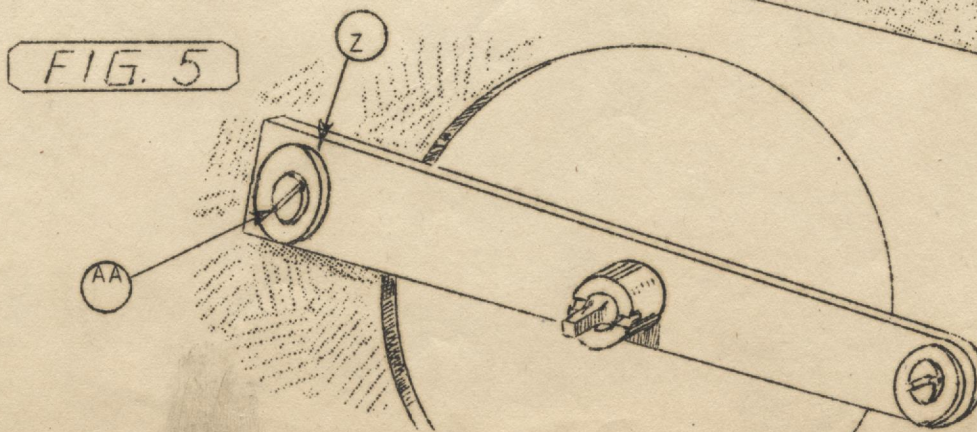
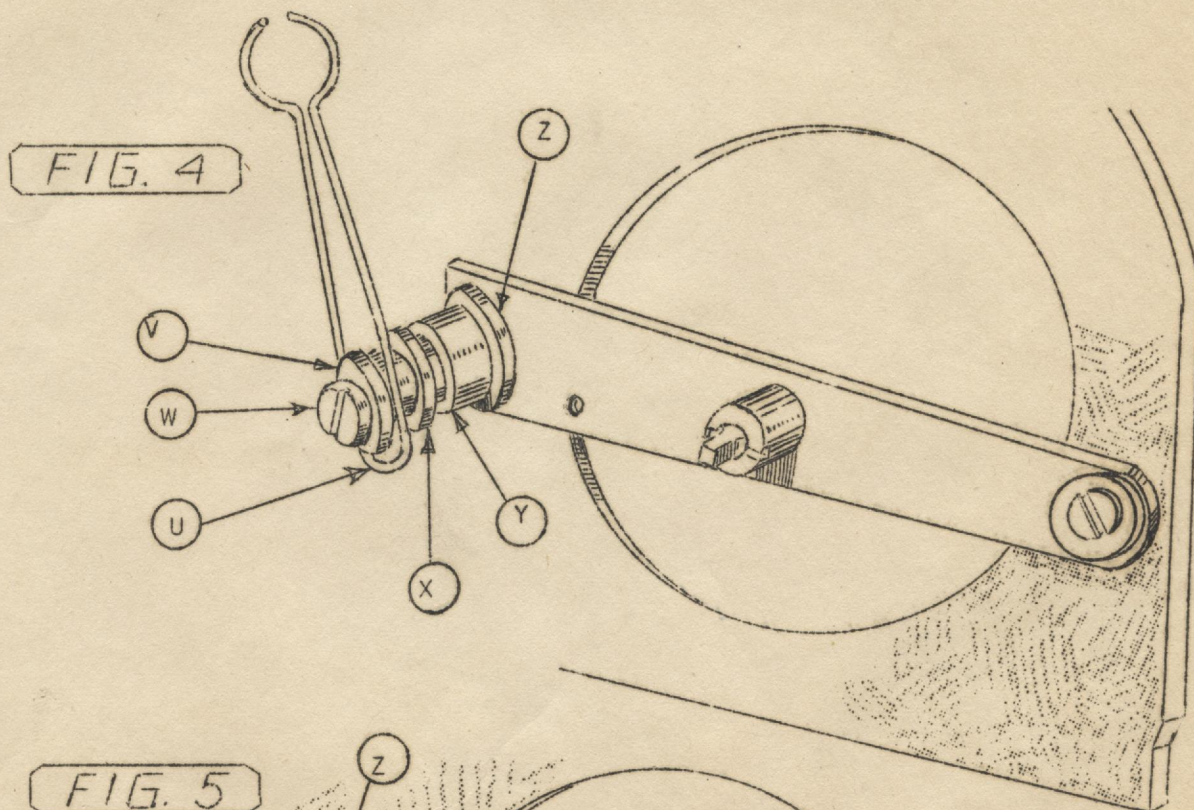
FIG. 3

16. Assemble the cover case and carriage to the base of the machine and test thoroughly.

HOW TO INSTALL ON LA-160 MODELS

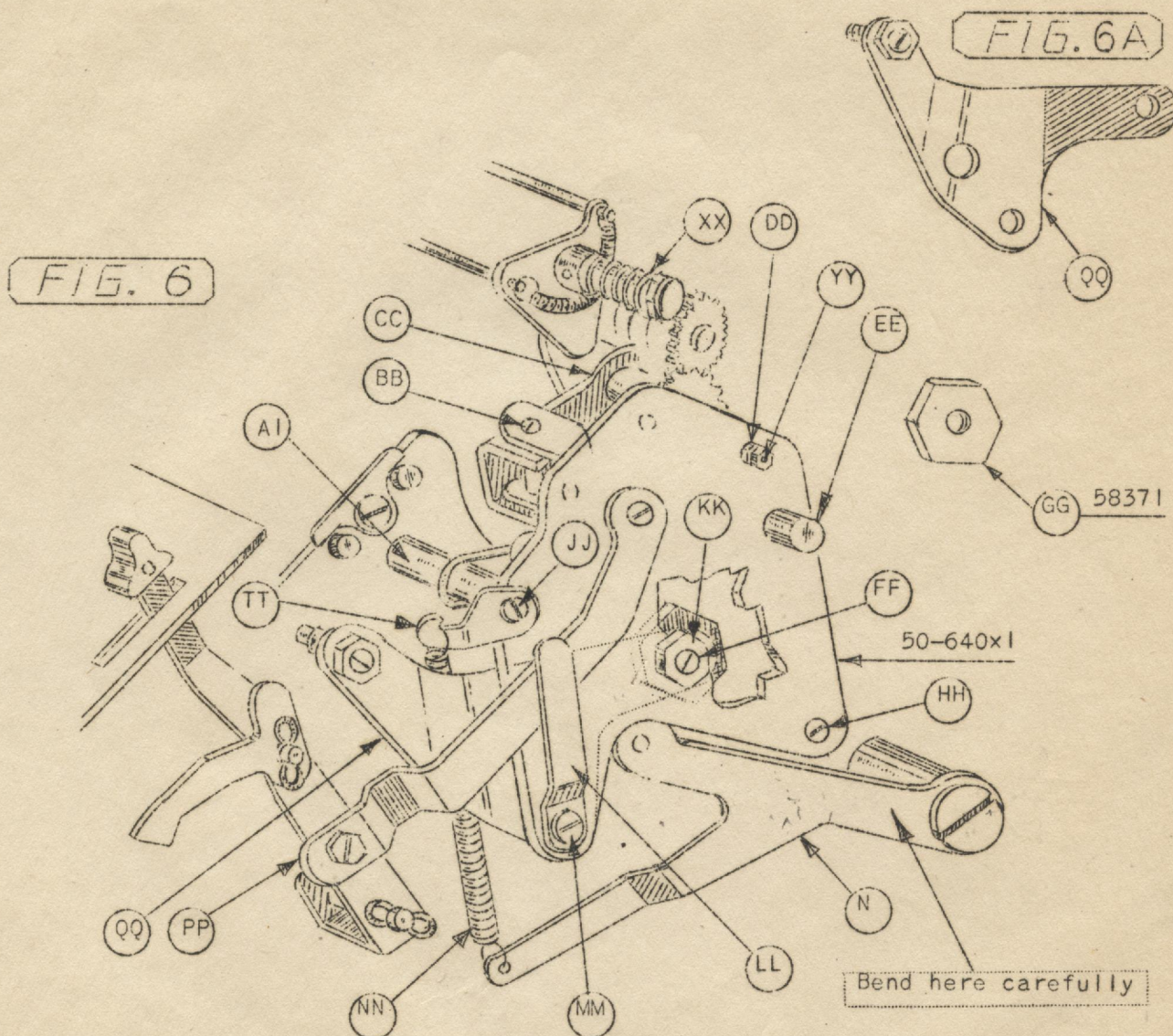
Follow all the instruction items under LA-200, with the exception of items #12 and #14, which should read as follows:

12. Remove the inner nut from screw (AA) and remove the screw and nut from the machine. See figure 5.
Install spacing collars (V) and (Y), together with washer (X) on a 4768 screw (W), and install screw (W) through washer (Z) and the spacing and insulating washers, which were originally in the machine. See figure 4.
14. Install a 44820 friction spring (U) over the shoulder of the 59351 spacing collar (V). See figure 4.



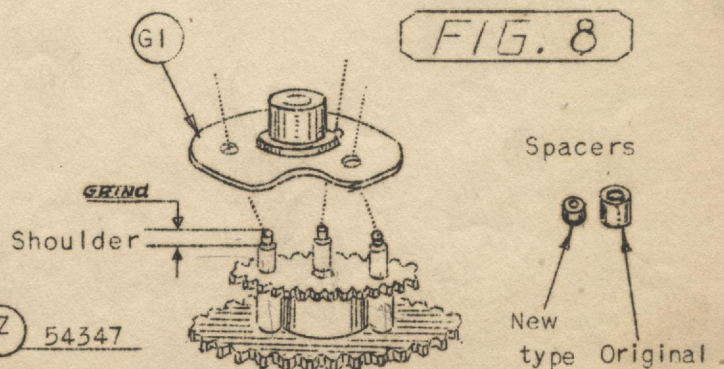
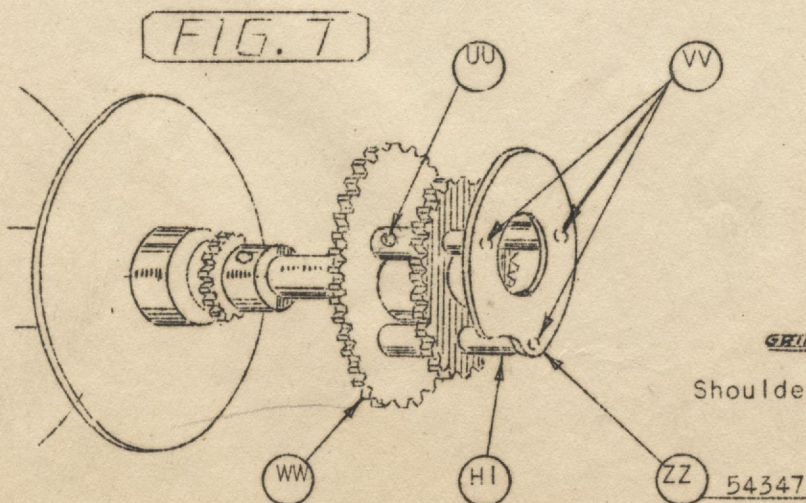
HOW TO INSTALL ON MA MODELS

- 1 Remove the carriage and the R.H. side cover case section and operate the machine until the timing dots on the gear train and carry counting gears align.
- 2 Unhook spring (NN). Remove spring hook (TT) by removing screw (JJ). See fig. 6.
- 3 Remove guide blank (LL) by removing screw (MM). See figure 6.
- 4 Remove screw (HH), together with nuts (DD). See figure 6.
- 5 Remove screw stud (BB) and drop the shift bar (PP) downward out of position. See figure 6.



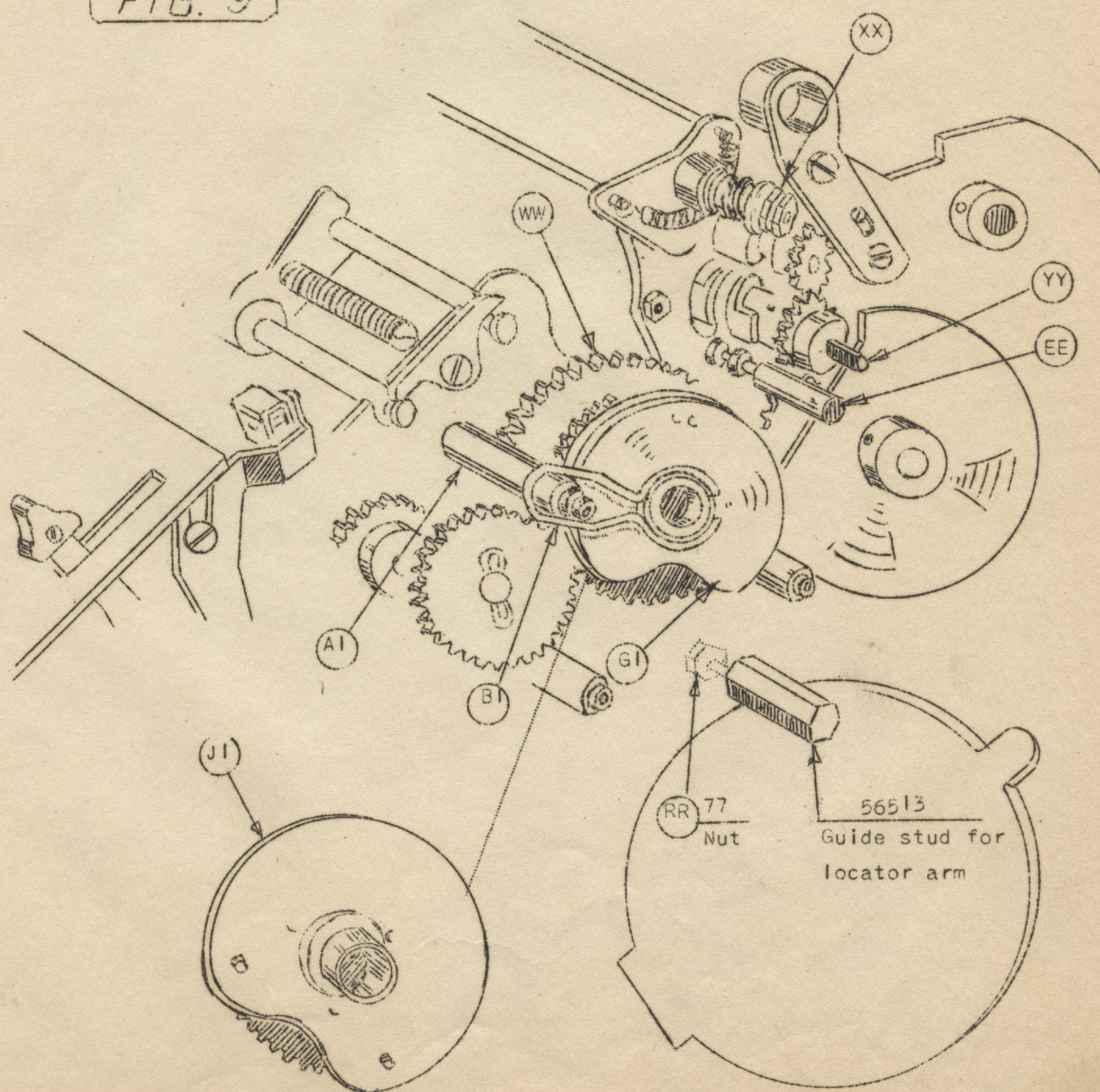
- NOTE: Bend the locator arm inward against the 56513 (face of the) guide stud to take up excessive side play; this is necessary due to the new locator arm roller not having flanges to guide it.
- 6 Withdraw the counting reverse sub-plate 50-640x1. In doing so, however, precaution should be taken that the plunger pin (EE) and the tie bolt spindle (YY) do not drop out of position! To prevent this it may be necessary to use a rubber band or a piece of wire to support these parts from the carry counting shaft (XX). See figures 6 and 9.
 - 7 Remove the 58171 bracket (QQ), and remove the shaded area. See figure 6A.

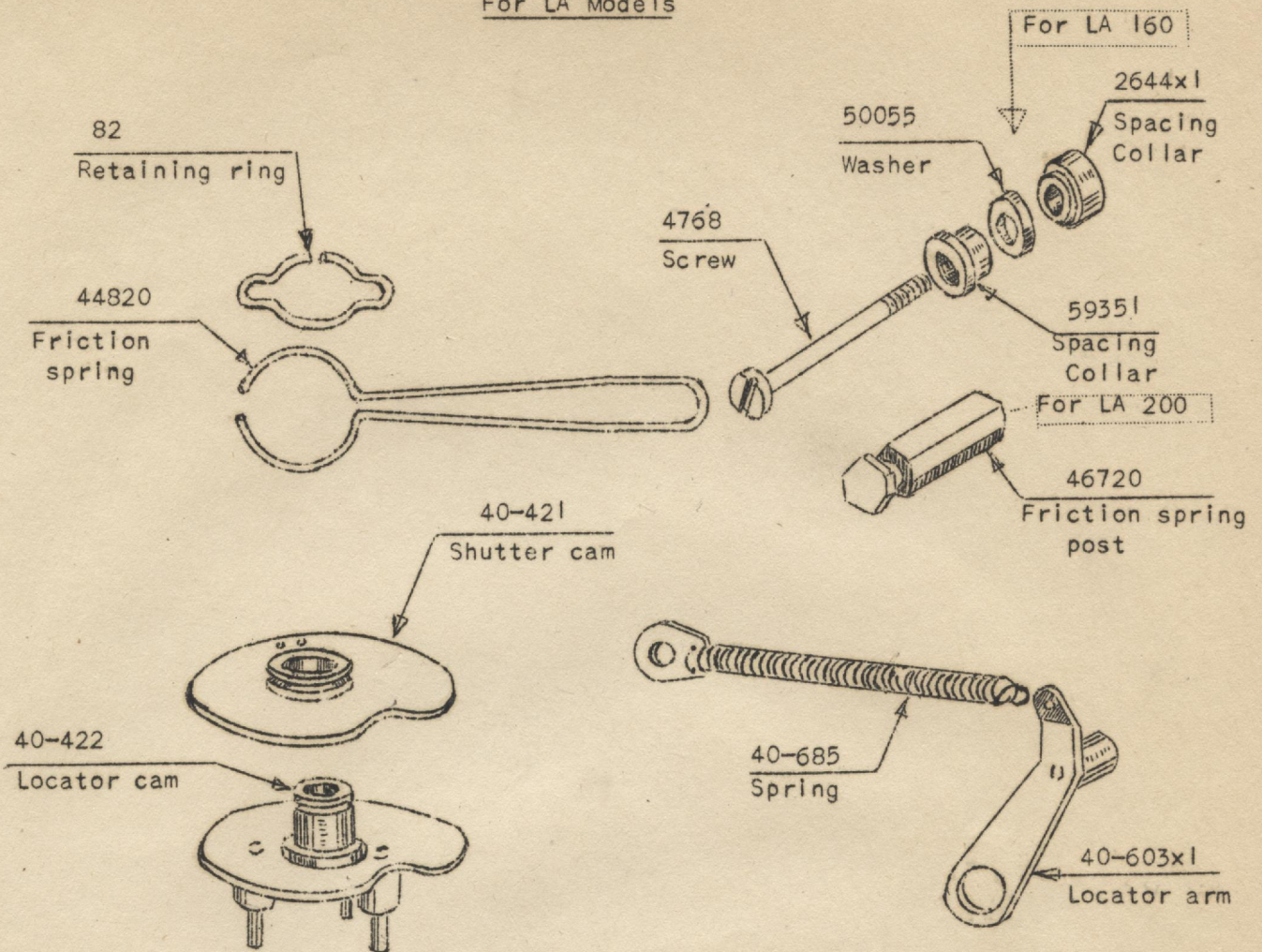
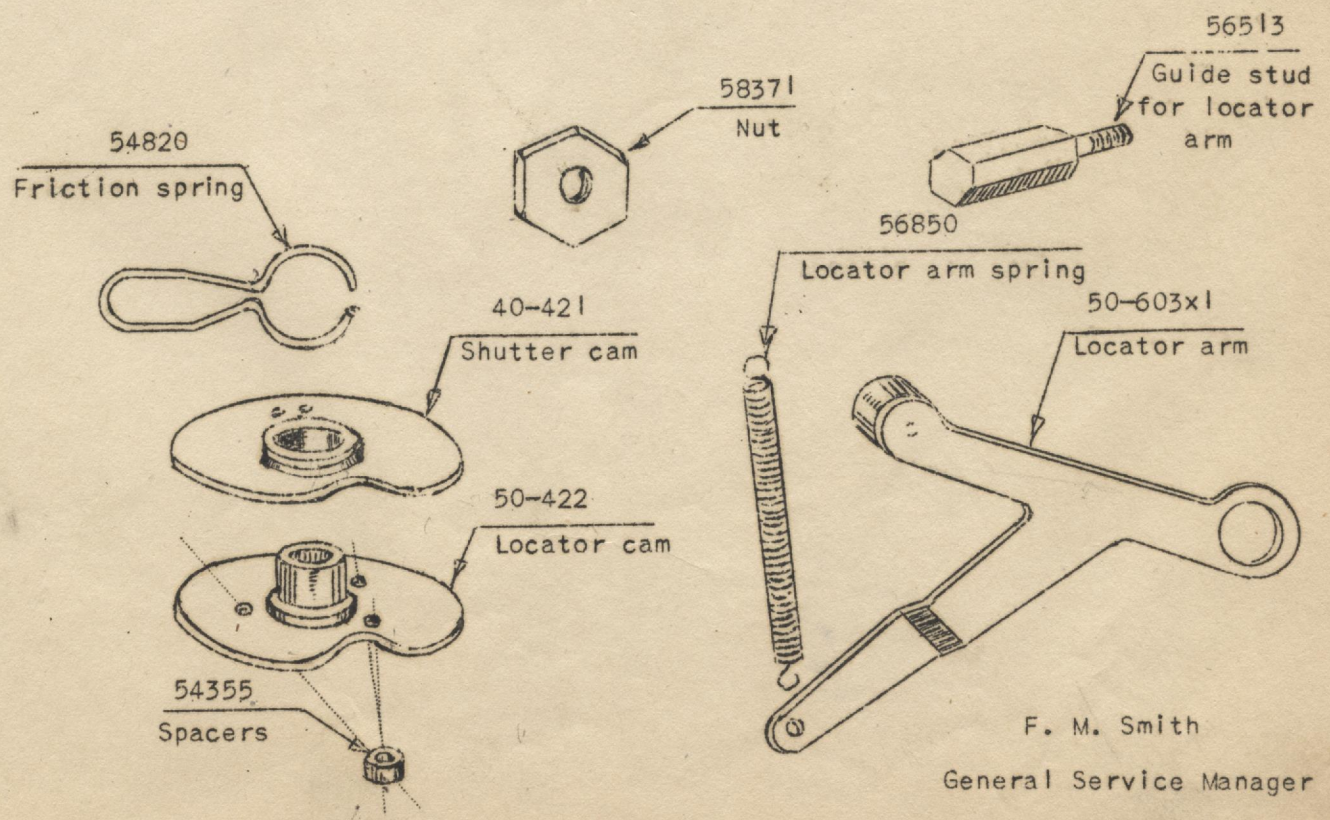
- 8 Remove the taper pin (UU) from the main shaft gear assembly (WW). See Fig. 7.
- 9 Using a hand-ee grinder, remove the rivet heads (VV) and pry off the original cam (ZZ), and remove original spacers (HI). See fig. 7. Grind the rivet studs down to the shoulder. See fig. 8.
- 10 Install the new spacers, which are shorter than the originals.
- 11 Install a 50-422 cam on these rivet studs and rivet securely.
- 12 Install the cam on the main shaft and secure it by inserting the taper pin (UU). See figure 7. NOTE: It is important that the timing dots on the effected gears align properly.
- 13 Apply oil to the hub on the inner locator cam and the roller on locator arm. Install a 40-421 shutter cam (GI) on the shoulder of the inner locator cam (JI), with the two stop pins of the shutter cam (GI) facing inward. Position the cam so that the recesses align. See figure 9.
- 14 Install a 54820 friction spring (BI) over post (AI) and in the groove of the shutter cam (BI). See figure 9. NOTE: Very little, if any, adjustment for tension should be necessary on these 54820 friction springs upon their arrival from Orange, inasmuch as the manner in which they are made should furnish the approximate friction which will be necessary to hold the shutter cam in position. See that the shutter cam works freely.
- 15 Install a 58371 hexagon nut on the inside of the 50-640x1 counting reverse sub-plate and secure it to the sub-plate by inserting screw (FF) through nut (KK), the sub-plate, and the 58371. See figure 6.
- 16 Install shifter fork (CC), the 58171 bracket and the 50-640x1 sub-plate. See figure 6.
- 17 Move the shift bar (PP) into its original position and install guide blank (LL) and spring hook (TT). Insert screws (JJ), (MM), (HH), and (BB), and install and tighten nuts (DD). See figure 6.
- 18 Remove locator arm (N). Install 56513 guide stud and secure with #77 nut on inside of frame. Install the new locator arm as instructed on plate 5. See figure 6.
- 19 Attach the new spring (NN) from the locator arm (N) to spring hook (TT). See figure 6.
- 20 Adjust screw (FF) to control the end play in the main shaft and lock it in place by tightening nut (KK). See figure 6.



- 21 Assemble the R.H. cover case section and the carriage to the base of the machine and test thoroughly.

FIG. 9



PARTS AND ASSEMBLIES USEDFor LA ModelsFor MA Models

F. M. Smith

General Service Manager